

AMENDMENTS TO THE ABSTRACT:

Please amend the Abstract as follows:

A quantum cipher communication system is provided, that detects a phase difference as a difference signal of ~~a an-optical-balanced homodyne~~ detector, which are imparted by a sender and a recipient between a weak signal light and an intense reference light, wherein the phase difference is assigned to bit 1 θ or bit 0 \pm by comparing the difference signal with threshold values which are determined from a quantum-mechanical probability distribution of the difference signal ~~signals~~ measured by the recipient; and wherein an eavesdropping is detected by the recipient measuring a change in the quantum-mechanical probability distribution ~~distributions~~ of the difference signal, which is produced by the eavesdropping operation.